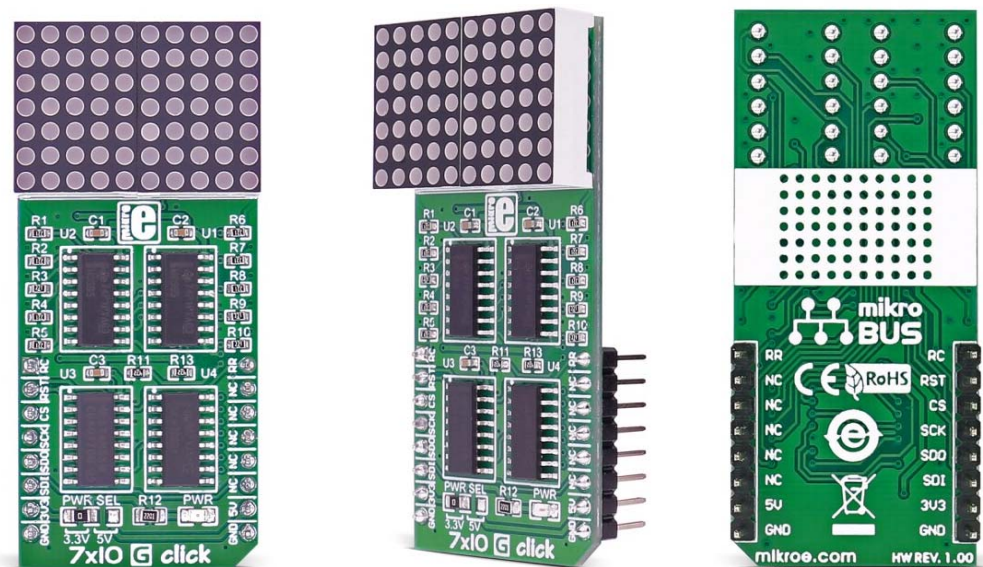# 7x10 G click

PID: MIKROE-2705

Weight: 34 g

7x10 G click can be used for displaying letters on a display with 7x5 font resolution. It carries a matrix of 70 green LEDs driven by a pair of 8-bit serial-in, parallel-out shift registers, a Darlington Transistor array and a Johnson counter.

7x10 G click is designed to run on either 3.3V or 5V power supply.It communicates with the target microcontroller over SPI interface, with additional functionality provided by the following pins on the mikroBUS™ line: AN, PWM, RST.

How it works

7x5 is a standard resolution for displaying ASCII characters, so 7x10 click is essentially a dual character display capable of showing letters in more readable typefaces compared to a 14-segment display.
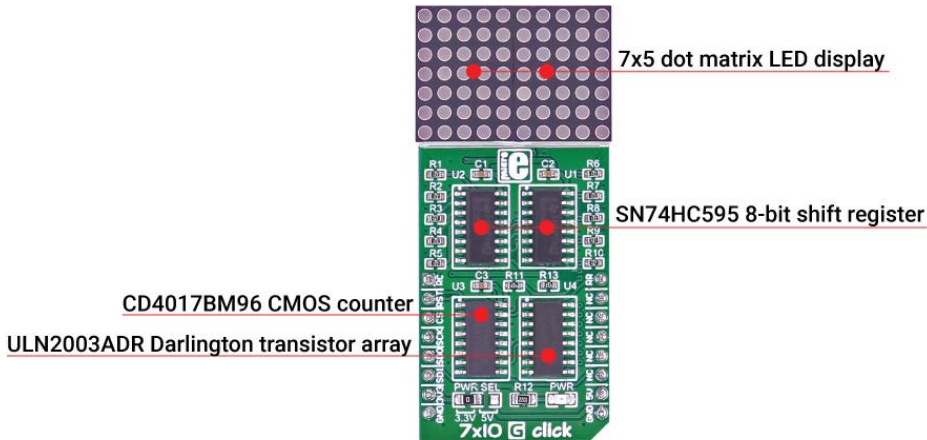
The dot matrix can also show scrolling text, thus fitting longer messages in small space. The pair of 8-bit SIPO shift registers drive the display. The current amplification necessary for driving the LEDs is performed by a Darlington Transistor array while a Johnson counter performs the necessary LED multiplex.

Specifications

Type	LED Matrix
Applications	7x5 dot matrix text display for user interfaces
On-board modules	SN74HC595 8-bit shift register, ULN2003ADR Darlington transistor array, CD4017BM96 CMOS counter
Key Benefits	Displays letters in highly readable format, scrolling text capability
Interface	SPI
Input Voltage	3.3V or 5V
Click board size	L (57.15 x 25.4 mm)

Pinout diagram

This table shows how the pinout on **7x10 G click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikro™ BUS		Pin	Notes
CD4017 clock pin	**RC**	1 AN	PWM 16	**RR**	CD4017 reset pin
74HC595 reset	**RST**	2 RST	INT 15	NC	
Latch of 74HC595	**CS**	3 CS	TX 14	NC	
SPI clock pin	**SCK**	4 SCK	RX 13	NC	
SPI slave data out pin	**SDO**	5 MISO	SCL 12	NC	
SPI slave data in pin	**SDI**	6 MOSI	SDA 11	NC	
Power supply	**+3.3V**	7 3.3V	5V 10	**+5V**	Power supply
Ground	**GND**	8 GND	GND 9	**GND**	Ground

Programming

Code examples for 7x10 G click, written for MikroElektronika hardware and compilers are available on Libstock.

Code snippet

This code snippet shows how to display scrolling text at medium speed.

```
01 void S7X10G_Task()
02 {
03     bool ind;
04     static bool called = false;
05     S7X10G_clearDisplay();
06
07     // scrolls given text
08     if ( !called )
09     {
10         S7X10G_drawText( "  Mikro Elektronika" );
```

```
11          S7X10G_scrollEnable( S7X10G_SPEED_MED );
12          called = true;
13      }
14      do
15      {
16          ind = S7X10G_refreshDisplay();
17          S7X10G_tick();
18          Delay_ms( 10 );
19      } while( ind );
20      called = false;
21  }
22
23  void main()
24  {
25      systemInit();
26      while( 1 )
27      {
28          S7X10G_Task();
29      }
30  }
```


https://shop.mikroe.com/7x10-g-click 8-2-17